

CLAIMS

1. A coated substrate comprising a carbohydrate-salt mixture coated on the substrate, wherein the coating has been regenerated by rinsing with a solvent, wherein the carbohydrate salt mixture comprises a water insoluble carbohydrate at least partially dissolved in an aqueous salt solution to form a carbohydrate salt complex.
2. The coated substrate of Claim 1, wherein the coating is hydrophilic and non-leaching.
3. The coated substrate of Claim 1, wherein the carbohydrate is cellulose, starch, pectin, alginic acid, chitin or chemical derivatives thereof.
4. The coated substrate of Claim 3, wherein the carbohydrate is cellulose.
5. The coated substrate of Claim 3, wherein the carbohydrate-salt mixture comprises from about 0.1% to about 50% by weight carbohydrate.
6. The coated substrate of Claim 5, wherein the carbohydrate-salt mixture comprises from about 0.1% to about 10% by weight carbohydrate.
7. The coated substrate of Claim 1, wherein the aqueous salt solution comprises a salt having a Hammett acidity between approximately +2 and approximately -3.
8. The coated substrate of Claim 7, wherein the aqueous salt solution comprises a salt having a Hammett acidity between approximately 0 and approximately -2.

9. The coated substrate of Claim 1, wherein the aqueous salt solution comprises zinc thiocyanate, a zinc halide, cadmium thiocyanate, a cadmium halide, titanium thiocyanate, a titanium halide, zirconium thiocyanate, a zirconium halide, lithium thiocyanate, a lithium halide, calcium thiocyanate, a calcium halide, magnesium thiocyanate, a magnesium halide, strontium thiocyanate, a strontium halide, potassium thiocyanate, a potassium halide, guanadinium thiocyanate, N-methyl morpholine oxide, or mixtures thereof.
10. The coated substrate of Claim 9, wherein the salt solution comprises zinc chloride.
11. The coated substrate of Claim 9, wherein the aqueous salt solution comprises at least 30% by weight salt.
12. The coated substrate of Claim 9, wherein the aqueous salt solution comprises from about 60% to about 80% by weight salt.
13. The coated substrate of Claim 1, wherein the carbohydrate-salt mixture is heated to a temperature between approximately 15° C and 85° C.
14. The coated substrate of Claim 13, wherein the carbohydrate-salt mixture is prepared and applied to the substrate at a temperature of about 65° C.
15. The coated substrate of Claim 1, wherein the solvent is water.
16. The coated substrate of Claim 1, wherein the coated substrate is rinsed with a solvent selected from the group consisting of ethanol, methanol, iso-propanol, acetone, methyl ethyl ketone, ethyl acetate and acetonitrile.

17. The coated substrate of Claim 1, wherein the coated substrate is rinsed at a temperature of about 65 °C to about 85 °C.

5 18. The coated substrate of Claim 1, wherein the carbohydrate-salt mixture further comprises water, wherein the water controls the orientation and degree of aggregation of the carbohydrate-salt complex.

10 19. The coated substrate of Claim 1, wherein the substrate is hydrophobic.

15 20. The coated substrate of Claim 1, wherein the substrate is a woven or non-woven material comprising polypropylene, polyethylene, polyester or polyamide.

20 21. The coated substrate of Claim 1, wherein the carbohydrate-salt mixture is applied to the substrate by dipping, spraying or foam coating the mixture onto the substrate.

22. The coated substrate of Claim 1, wherein the carbohydrate-salt mixture further comprises a surfactant.

25 23. The coated substrate of Claim 22, wherein the surfactant is a cationic surfactant, an anionic surfactant or a nonionic surfactant.

30 24. The coated substrate of Claim 23, wherein the surfactant is cetyl trimethyl ammonium bromide, sodium lauryl sulfonate, or ethyoxlated hexanol.

25. An absorbent structure comprising the coated substrate of Claim 24.

26. A personal care product having a bodyside liner, wherein the bodyside liner comprises the absorbent structure of Claim 25.

5 27. The personal care product of Claim 26, wherein the personal care product is a feminine care product, incontinence product, diaper, children's training pants, or wound dressing.

10 28. The coated substrate of Claim 1, wherein the carbohydrate is chitin.

15 29. An absorbent structure comprising the coated substrate of Claim 28, wherein the absorbent structure is a bodyside liner of a personal care product.

30. The absorbent structure of Claims 29, wherein the personal care product is a wound dressing or diaper.

20 31. The coated substrate of Claim 1, wherein the coating comprises less than about .5% by weight carbohydrate.

25 32. The coated substrate of Claim 31, wherein the coating provides a substantially discontinuous layer of carbohydrate and wherein the discontinuous layer of cellulose provides the substrate with wettability without wicking.

33. A product for use in a printing application comprising the coated substrate of claim 32.

30 34. The coated substrate of Claim 1, wherein the coating comprises between approximately .5% and approximately 1.5% by weight carbohydrate.

35. The coated substrate of Claim 34, wherein the coating provides a substantially continuous, thin layer of carbohydrate.

5 36. The coated substrate of Claim 35, wherein, when contacted with a liquid, the thin layer of carbohydrate is uniformly wettable and does not impart a wet feeling to the coating.

10 37. An absorbent product comprising the coated substrate of Claim 36.

15 38. A personal care product having a bodyside liner, wherein the bodyside liner comprises the coated substrate of Claim 36.

20 39. The personal care product of Claim 38, wherein the personal care product is a feminine care product, incontinence product, diaper, or wound dressing.

40. The coated substrate of Claim 1, wherein the coating comprises greater than about 1.5% by weight carbohydrate.

25 41. The coated substrate of Claim 40, wherein the coating provides a substantially continuous, uniformly wettable layer of carbohydrate.

30 42. The coated substrate of Claim 41, wherein, when contacted with a liquid, the layer of carbohydrate retains a significant amount of the liquid and imparts a wet feeling to the coating.

35 43. An absorbent product comprising the coated substrate of claim 41.

44. A personal care product having a bodyside liner, wherein the bodyside liner comprises the coated substrate of Claim 42.

- 5 45. The personal care product of Claim 44, wherein the personal care product is children's training pants.

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